

REMARKS

Reconsideration of this application and the rejection of claims 1-4, 6-10 and 12-20 are respectfully requested. Applicant has attempted to address every objection and ground for rejection in the Office Action dated November 21, 2008 (Paper No. 20081118) and believe the application is now in condition for allowance. The claims have been amended to more clearly describe the present invention.

Claims 2, 6, 16 and 17 are objected to based on informalities. Specifically, the Examiner states that claims 2, 6, 16 and 17 each contain improper means plus function language. Applicant has amended these claims to clarify the means plus function language and overcome this objection.

Claims 1-4, 9-10, 14, 16 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,904,308 to Frisch et al. in view of U.S. Publication No. 2004/0015075 to Kimchy et al. Applicant disagrees with and traverses this rejection for the following reasons.

Frisch discloses a system and method for locating an in vivo signal source which utilizes an ingestible capsule 100 and an antenna array belt 10 to estimate a position of the capsule inside a subject's body based on the signal strength measured by the antennas on the belt. (Col. 3, lines 10-22 and 60-65; FIGs. 1A, 2 and 3). The location of the signal source or capsule 100 is the intersection point of three circles as shown in Fig. 4 below.

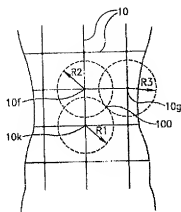


FIG. 4

Kimchy discloses a radioactive emission detector 22 that is equipped with a position tracking system 24 for calculating the position of a radioactive emitting source in a subject's body (See the Abstract). Specifically, the radioactive emission detector 22 is positioned outside of the subject's body and is moved on the body to track the position of the radioactive emitting source inside the body (Figs. 9, 12; ¶ 0173). The position tracking system 24 monitors the position of the detector 22 in a two or three-dimensional space in calculating the position of the radioactive emitting source (See ¶ 0112).

Amended claim 1 recites, among other things, a method of non-invasive exploration for accessing the digestive motility and transit of a human or animal subject including the steps of “measuring a reference position when said transmitting element is in the mouth of the subject, before the subject swallows it” and “measuring, at a given time using at least three reception means . . .

distributed around said subject's trunk, the phase shift of the frequency transmitted by said transmission means relative to the measurement of said reference position in order to obtain at least three phase-shift measurements" (Emphasis Added). The combination of Frisch and Kimchy fails to disclose or suggest such subject matter.

In the Action, the Examiner states that Frisch discloses the subject matter of claim 1 except for the step of "measuring the phase shift of the frequency transmitted by said transmission means relative to a reference phase . . . each receiver being able to measure at a given time the phase shift of said transmission frequency relative to a reference phase." The Examiner therefore relies on Kimchy to disclose this feature.

Applicant submits that the claimed invention includes the step of "measuring a reference position when said transmitting element is in the mouth of the subject, before the subject swallows it" (claim 1) to "measure at a given time the phase shift which is produced between two identical frequencies when the distance from the transmitting source relative to the reference position . . . is varied (Page 1, ¶ [0020]). It is very difficult, and less accurate, to obtain a reference position after the transmitting element is moving through the digestive system (after it is swallowed). Thus, the device recited in claim 1 measures the reference position while the transmitting element is positioned in a patient's mouth (i.e., before swallowing). Kimchy fails to disclose or suggest this feature.

The Examiner states that Kimchy teaches “measuring the phase shift of the frequency transmitted by said transmission means relative to a reference phase” and cites Paragraph [0116] of Kimchy as disclosing this feature (see the Office Action, page 4). Applicant fails to see where the feature is cited in Kimchy.

Paragraph [0116] of Kimchy states, among other things, that “other position tracking systems re-determine a position irrespective of previous positions, to keep track of positional changes.” Thus, the position of a tracking device in Kimchy is determined without any regard for a previous position or positions such as a reference position. The remaining portion of this paragraph fails to disclose or suggest determining any type of reference position, let alone a reference position in a patient’s mouth as recited in claim 1. The claimed invention, on the other hand, measures the phase shift relative to a specific reference position.

The Examiner further states that “[u]sing a reference position is a well known technique for determining the position of a remote device. In the case of monitoring an ingestible capsule, it would be obvious to use the capsule in the mouth as the reference position, as the capsule has not yet begun moving through the digestive system.” (See the Office Action, page 5). As stated above, Frisch fails to disclose such subject matter. Furthermore, Kimchy discloses measuring a position regardless of previous positions such as a reference position. Applicant

therefore submits that it would not be obvious or a mere design choice to measure a reference position of a transmitting element prior to swallowing it where neither Frisch nor Kimchy disclose or suggest such a feature.

For at least these reasons, Applicant submits that claim 1, and the claims that depend therefrom, are each patentably distinguished over the combination of Frisch and Kimchy and in condition for allowance.

Amended claim 9 includes similar subject matter to amended claim 1. Specifically, amended claim 9 recites, among other things, a non-invasive exploration system for assessing the digestive motility and transient of a human or animal subject that includes “means for measuring a reference position when said transmitting element is in the mouth of a subject, before the subject swallows it” and “receiving means for receiving said fixed frequency comprising at least three receivers intended to be placed around the trunk of said subject, each receiver being able to measure at a given time the phase shift of said transmission frequency relative to the measurement of said reference position in order to obtain at least three phase-shift measurements.” As stated above, the combination of Frisch and Kimchy does not disclose or suggest such subject matter.

Accordingly, Applicant submits that amended claim 9, and the claims that depend therefrom, are each patentably distinguished over the combination of Frisch and Kimchy and in condition for allowance.

Claim 20 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Frisch, Kimchy and Patent Document No. WO 00/22975 to Iddan et al ("Iddan I"). Applicant disagrees with and traverses this rejection for the following reasons.

Amended claim 20 recites, among other things, a method of non-invasive exploration for assessing the digestive motility and transit of a human or animal subject including the steps of "providing a plurality of ingestible transmitting elements, each of said transmitting elements being non-digestible and containing a transmission means for transmitting at a given fixed frequency," "measuring a reference position when said transmitting element is in the mouth of the subject, before the subject swallows it," "swallowing said ingestible transmitting elements over a period of time," "measuring . . . the phase shift of the frequency transmitted by each of said transmission means relative to a reference position to obtain at least three phase-shift measurements."

As stated above, the combination of Frisch and Kimchy does not disclose or suggest such subject matter. Iddan I does not remedy the deficiencies of Frisch and Kimchy.

Iddan I discloses a method for delivering a device to a target location in a gastrointestinal tract. The method generates a map of the route taken by a capsule utilizing a camera system. Iddan I does not disclose or suggest "measuring . . . the phase shift of the frequency transmitted by each of said

transmission means relative to a reference position to obtain at least three phase-shift measurements” and “determining, by triangulation on the basis of the at least three phase-shift measurements, a 3D position of each of said transmitting elements” as in the claimed invention.

For at least these reasons, Applicant submits that amended claim 20 is patentably distinguished over the combination of Frisch, Kimchy and Iddan I and in condition for allowance.

Claims 12, 13 and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Frisch, Kimchy and in further view of WO 01/50941 to Refael. Claims 12, 13 and 15 depend from amended claim 9. Applicant therefore submits that claims 12, 13 and 15 are patentably distinguished over the combination of Frisch, Kimchy and Refael for at least the reasons provided above with respect to amended claim 9. Furthermore, Refael does not disclose or suggest “means for measuring a reference position [of a] ... transmitting element ... before the subject swallows it” and “receiving means for receiving said fixed frequency comprising at least three receivers intended to be placed around the trunk of said subject, each receiver being able to measure at a given time the phase shift of said transmission frequency relative to the measurement of said reference position in order to obtain at least three phase-shift measurements.” Accordingly, Applicant submits that claims 12, 13 and 15 are each patentably distinguished over the combination of Frisch, Kimchy and Refael and in condition for allowance.

Claims 7 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Frisch, Kimchy and in further view of U.S. Patent No. 5,415,181 to Hogrefe et al. Claim 7 depends from amended claim 1 and claim 18 depends from amended claim 9. Applicant therefore submits that claims 7 and 18 are patentably distinguished over the combination of Frisch, Kimchy and Hogrefe for at least the reasons provided above with respect to amended claims 1 and 9. Furthermore, Hogrefe discloses a biomedical monitoring system using AM and FM signal transmission. Hogrefe does not disclose or suggest “measuring a reference position [of a] ... transmitting element ... before the subject swallows it,” “measuring, at a given time using at least three reception means for receiving said fixed frequency that are distributed around said subject’s trunk, the phase shift of the frequency transmitted by said transmission means relative to the measurement of said reference position in order to obtain at least three phase-shift measurements” as presently claimed. Accordingly, Applicant submits that claims 7 and 18 are patentably distinct from the combination of Frisch, Kimchy and Hogrefe and in condition for allowance.

Claims 8 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Frisch, Kimchy and in further view of Iddan I. Claim 8 depends from amended claim 1 and claim 19 depends from amended claim 9. Therefore, Applicant submits that claims 8 and 19 are patentably distinguished over the combination of Frisch, Kimchy and Iddan I for at least the reasons provided above

with respect to amended claims 1 and 9. Furthermore as stated above, Iddan I fails to remedy the deficiencies of Frisch and Kimchy.

Accordingly, Applicant submits that claims 8 and 19 are each patentably distinguished over the combination of Frisch, Kimchy and Iddan I and in condition for allowance.

Claims 6 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Frisch, Kimchy and in further view of European Patent No. 0667115 to Iddan et al. ("Iddan II"). Claim 6 depends from amended claim 1 and claim 11 depends from amended claim 9. Therefore, Applicant submits that claims 6 and 11 are patentably distinguished over the combination of Frisch, Kimchy and Iddan II for at least the reasons provided above with respect to amended claims 1 and 9. Furthermore, Iddan II discloses an in vivo video camera system. Iddan II does not disclose or suggest "measuring a reference position [of a] ... transmitting element ... before the subject swallows it," "measuring, at a given time using at least three reception means for receiving said fixed frequency that are distributed around said subject's trunk, the phase shift of the frequency transmitted by said transmission means relative to the measurement of said reference position in order to obtain at least three phase-shift measurements" and "determining, by triangulation on the basis of the at least three phase-shift measurements, a 3D position of said transmitting element" as presently claimed. Accordingly, Applicant submits that claims 6 and 11 are each patentably

distinguished over the combination of Frisch, Kimchy and Iddan II and in condition for allowance.

Applicant submits that in view of the above-identified amendments and remarks, the claims in their present form are patentably distinct over the art of record. Allowance of the rejected claims is respectfully requested. Alternatively, the claims are placed in better form for an Appeal. Should the Examiner discover there are remaining issues which may be resolved by a telephone interview, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By /Christopher S. Hermanson/
Christopher S. Hermanson
Registration No. 48,244

Customer No. 24978
May 15, 2009
Suite 2500
300 S. Wacker Drive
Chicago, Illinois 60606-6501
Telephone: (312) 360-0080
Facsimile: (312) 360-9315